PROJECT WORK PLAN

Libby Asbestos Project
Inventory and Cleanup
Siefke / Brownlee Properties
Libby, Montana

Contract No. DTRS57-01-D-30006
Task Order No. 003

Prepared for:

US Department of Transportation
Research and Special Programs Administration
Volpe National Transportation Center
55 Broadway, DTS-33
Kendall Square
Cambridge, MA 02142

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July 2001

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1.0 INTRODUCTION

This Project Work Plan (PWP) describes the planned activities to be performed during the inventory and cleanup of the Siefke and Brownlee properties. Both properties are located in the town of Libby, Montana. Included below are a brief site description, an overview of the work to be performed, and specific descriptions of these activities. The work will be performed under Contract No. DTRS57-01-D-30006, Task Order No. 003.

1.1 Background

W.R. Grace previously operated a vermiculite mine outside of the town of Libby, Montana. The mine is located on Zonolite Mountain approximately seven miles northeast of Libby. Vermiculite is used in various building materials and textiles. It is also used as a sub-base and as a soil conditioner. According to historical records, 80 percent of the world's vermiculite came from the W.R. Grace Vermiculite Mine. The mine began operation in 1924 and was operated until 1990. When the mine was in operation, the ore was trucked to the mill. Processing at the mill included screening the ore into various sizes and running the ore through an expansion oven to increase the size of the vermiculite particles. The site also included a railroad loading facility where processed and unprocessed ore was loaded onto railcars for shipment and distribution. This site is also referred to as the "Screening Plant", "Railroad Loading Facility", and "Raintree Nursery". The Screening Plant site is located approximately 4.5 miles northeast of Libby on the northeast side of the Kootenai River.

The W.R. Grace vermiculite contains concentrations of tremolite. Tremolite is a rare and exceedingly toxic form of asbestos. During the six decades of operation of the mine and screening plant, millions of tons of vermiculite was mined and shipped from Libby. It is also estimated that tons of asbestos was also released into the air causing possible contamination of various parts of the area, including portions of the town of Libby.

1.2 Site Location

The main work area is the Siefke property. The Siefke property is located at 3496 HWY 2 South, in Libby, Montana. See attached Site Maps (Appendix A). The Siefke site

contains several structures, a garden area, a corral, and numerous vehicles and tractors. Possible causes of asbestos contamination at this site is airborne dust, purchase and storage of equipment obtained from sales at the mine, and use of vermiculite as a soil conditioner. The structures include the following:

- House – single story, single family dwelling
- Warehouse – wooden single story unfinished motel
- Storage – two story metal building with attached wooden structures
- Wood Shed – two story wooden building
- Barn – single story wooden building
- School Bus – currently being used as storage
- Several smaller wooden and metal sheds

The second work area is the Brownlee property. The Brownlee property is located at 819 Cabinet View Heights, in Libby, Montana. The Brownlee site consists of a single-family dwelling, a landscaped yard, and a garden area. Asbestos contamination at this site consists of the import and use of vermiculite as a soil conditioner. See attached Site Maps (Appendix A).

2.0 SCOPE OF WORK

Work under this task order consists of three work phases. Phase I is the production and submittal of plans. Phase II is project planning and production of an Inventory / Appraisal Report of property items at the Siefke site. Phase III is the cleanup and disposal activities at the Siefke and Brownlee sites. Specific tasks are as follows:

Phase I

- Submittal of this PWP, Site Specific Health and Safety Plan (HSP), and Project Schedule

Phase II

- Mobilization to Site
- Removal Cost Management System (RCMS) training

Siefke Site:

- Setup of temporary facilities at site
- Construction of decontamination facilities
- Construction of temporary storage facilities
- Removal and inventory of property items
- Storage of property items
- Submittal of Inventory / Appraisal Report

Brownlee Site:

- Coordination with CDM Federal Programs Corporation (CDM) and DOT Volpe representatives to determine scope and extent of soil excavation and removal activities

Phase III

Siefke Site:

- Decontamination of property items designated to be salvaged
- Storage of decontaminated salvage items
- Transportation and removal of property items designated to be disposed of
- Demolition of designated structures
- Decontamination of designated structures
- Excavation of contaminated soils
- Transportation and disposal of contaminated soils
- Backfilling of excavations with appropriate clean imported soil
- Site cleanup
- Demobilization

Brownlee Site:

- Removal of fence (if required)
- Excavation of contaminated soils
- Transportation and disposal of contaminated soils
- Backfilling of excavations with appropriate clean imported soil
- Reinstallation of fence (if necessary)
- Site cleanup
- Demobilization

3.0 SCHEDULE

Following approval of this PWP, KES will commence project scheduling and mobilization activities. The first tasks to be performed will include mobilization to the site, setup of temporary facilities at the Siefke site, and RCMS training. Initial inventory and storage of items will be performed in the Warehouse. Depending upon sample results, additional buildings may be added. The Inventory / Appraisal Report (IAR) will be produced and submitted during this time. Following review of the IAR, KES will begin Phase III activities. Disposal items will be transported to the Screening Plant for future disposal. Salvage items will be decontaminated and stored. Designated buildings will be demolished. Debris will be transported to the Screening Plant for future disposal. Following this, any contaminated soils will be excavated and transported to the Screening Plant. Imported soil will then be brought in and used to backfill any excavations. Site restoration and cleanup will then be performed. Phase III activities at the Brownlee site will be performed simultaneously with activities at the Siefke site. Activities at the Brownlee site will be limited to excavation and removal of the vermiculite stockpile and any contaminated soils; transportation of soils to the Screening Plant, import and backfilling of excavations with clean imported topsoil; and site cleanup. For more information, see attached Project Schedule (Appendix C).

4.0 KEY PERSONNEL AND ORGANIZATION

The project organization chart is presented in Appendix B. The safety and health designees and their general responsibilities are presented below. Field employees have OSHA 40-hour hazardous waste operations training, as well as required refreshers and any other additional training required by their job duties.

Project Manager

KES Project Manager, Mr. Mark Hallock, communicates directly with the US DOT representative and will serve as the primary point of contact. He is responsible for all site activities including:

- Management of all task order requirements.
- Briefing field team on specific duties.

- Management and coordination of suppliers and subcontractors on specific duties.
- Ensuring that safety and health requirements are met.
- Controlling site access.
- Providing liaison with public officials.

Corporate Safety and Health Officer

As the Corporate Safety and Health Officer (SHO) and Certified Industrial Hygienist (CIH), Mr. Michael Ridosh is responsible for the development of the HSP in compliance with OSHA standards and Kuo safety and health policies. Additional responsibilities include:

- Modifying and/or developing new safety and health procedures as necessary.
- Ensuring all on-site personnel have been medically certified and trained in accordance with applicable OSHA standards in order to perform field activities.
- Reviewing medical surveillance procedures as outlined in Kuo's Safety and Health Plan.
- Conducting initial site-specific training.
- Being available for consulting during work activities and for emergencies.
- Reviewing accident reports, air monitoring reports, and daily inspection reports.
- Selecting respiratory protection, personal protective equipment (PPE), and levels of protection.
- Authorizing a stop-work order if he determines, in consultation with the Site Safety Officer (SSO), that a safety hazard or potentially dangerous situation exists.

Site Safety Officer

Mr. Robert Hurns will be the Site Safety Officer (SSO) on this project. The SSO implements and enforces the project safety program and procedures at the project site. The SSO has safety and health experience. The SSO will report directly to the SHO. On-site safety and health concerns will be the responsibility of the SSO. Specific responsibilities include:

- Selecting the proper level of PPE and respiratory protection in accordance with the HSP and ensuring its use by all on-site employees.
- Setup and maintenance of decontamination facilities.
- Regularly inspecting all PPE and providing proper maintenance and storage of PPE.
- Monitoring on-site workers for signs of stress (e.g., heat stress, cold exposure, toxic exposure, and general fatigue).
- Participating in the preparation of the HSP and ensuring its implementation on site.
- Conducting daily safety meetings and inspections.
- Implementing evacuation procedures and coordinating emergency on-site medical care and services when necessary.
- Keeping the project SHO appraised of any conditions not covered in the HSP.
- Issuing a stop-work order if site conditions change or if procedures are not being followed or appear inadequate.

Other Project Personnel

Kuo and subcontractor personnel who constitute the field team will have the following individual and collective responsibilities:

- Read and be thoroughly familiar with all aspects of the PWP and HSP.
- Complete all assigned tasks in compliance with the PWP and HSP.
- Notify the SHO of any potentially unsafe conditions.
- Attend all on-site safety meetings.

5.0 TEMPORARY FACILITIES

Following mobilization, KES will begin setup of temporary facilities at the Siefke site. This will include an office trailer, temporary storage facility, and decontamination facilities.

5.1 Office Trailer

KES will locate an office trailer on the Siefke property for the duration of the project. The trailer will be located off the driveway between the House and the Warehouse. The trailer will be used as the KES office during this task order. Direct hookup or portable generator will provide power. KES will have local phone and FAX lines established.

5.2 Temporary Storage Facilities

During the Phase II Inventory / Appraisal activities, property items removed from the structures will be segregated into three groups and stored. The three inventory categories are:

- No value – Items that the owner has agreed are trash and as such, owner is not seeking compensation or replacement of item. These items will be disposed of.
- Value / Decon – Items have value and are designated to be decontaminated and returned to owner.
- Value / Disposal – Items have value but it is more feasible or economical to dispose of item and replace with new or provide fair compensation to owner than to decontaminate item. These items will be disposed of.

Items of No Value will be placed on and covered with visquine. This will be done to prevent spread of contamination during inclement weather and also to protect any item should the IAR review result in a change of status of any of the items.

Items of Value / Decon and Value / Disposal will be placed in separate, temporary storage structures. These structures will be constructed using two-by-four frames and visquine. This will be done to protect the items and to prevent spread of contamination during inclement weather.

5.3 Decontamination Facilities

There will be three types of decontamination facilities, personnel, equipment, and property items. A personnel decontamination / changing station will be constructed using wood frame and visquine. Personnel will enter and exit the work area through this station. They will also use this station to don and remove PPE. The station will

have a boot wash station, basins to wash face and hands, and a mask cleaning station. Decon water will be collected, filtered, and placed in temporary storage. Filtered water will be sampled and disposed upon receipt of "clean" sample results.

An equipment decon station will be constructed for use during off-hauling activities and before demobilization of construction equipment. Trucks and equipment will drive onto the equipment decon station. Truck tires and equipment will be washed down to remove any dirt or asbestos contamination before the truck or equipment leaves the site. Decon water will be collected, filtered, and placed in the temporary decon storage tank.

Property items that are designated to be decontaminated and returned will be cleaned at the property decontamination station. Small items will be cleaned and rinsed in sinks, and then hand dried. Larger items may require construction of an area similar to the equipment decon station. If such is the case, then the larger items will be sprayed off and either hand or air-dried. Decon water will be collected, filtered, and placed in the temporary decon storage tank.

6.0 WORK ZONES

The work area will be divided into three well-delineated zones:

- Exclusion Zone
- Contamination Reduction Zone
- Support / Clean Zone

The zones will be delineated using caution tape, barricades, and temporary fencing. Personnel will access the exclusion zone only through designated locations in the contamination reduction zone.

Complete sampling of the Siefke site structures have not yet been completed. Current task order requirements identify the Warehouse as being contaminated with asbestos containing materials (ACM). Results from future sampling may result in additional structures needing inventory / cleanup activities. Therefore, the work zones may be modified to reflect expanded work areas. Before setting up work zones, KES will

coordinate with DOT and CDM representatives to discuss current and potential future sampling results. Any field changes to the work zones and truck route layouts will be documented and submitted for record.

7.0 INVENTORY / CLEANUP OF PROPERTY ITEMS

As previously discussed, this task order calls for the complete inventory of property items contained in the Warehouse. Additional sampling may require additional structures to be inventoried as well. The property items will be divided into three categories: No Value, Value / Decon and Value / Disposal. Inventory activities will begin by removing the items from the structure. The first items to be removed will be those previously identified by the owner as having No Value. Other Items will then be removed by area or room. Removed items will be placed in the Item Inspection Area. At this area, the removed items will be documented on the Inventory ID sheet; see Appendix D. The items will be photographed using a digital camera, given an ID number, and described. Similar items will be counted and photographed together. An ID sticker will be placed on items. Similarly, a small white board with item ID number will be shown in each photo. During this process, KES will work with the DOT and CDM representatives, KES subcontracted appraiser and property owner to assist KES in determining item categories:

- No value – Items that the owner has agreed are trash and as such, owner is not seeking compensation or replacement of item. These items will be disposed of.
- Value / Decon – Items have value and are designated to be decontaminated and returned to owner.
- Value / Disposal – Items have value but it is more feasible or economical to dispose of item and replace with new or provide fair compensation to owner than to decontaminate item. These items will be disposed of.

The items will then be placed in separate No Value, Value / Decon and Value / Disposal storage areas.

KES and the appraiser will then produce the IAR. The IAR will summarize the results of the inventory and appraisal by category. Each category section will include all of the Inventory ID Sheets for each individual or group of items along with a category

summary sheet. The summary sheet for the Value / Disposal category will also include a column showing the value of the item. As the Warehouse is scheduled for demolition, the appraiser will also provide appraisal information and cost summary on the replacement cost of the building itself. The completed IAR will then be submitted to the DOT for review and comment. A Final IAR will then be completed and submitted based upon DOT comments, if any. If comments require that certain items change category, then KES will physically move those items to the appropriate category storage area. This will be done prior to beginning Phase III activities to avoid any confusion.

7.1 No Value

Phase II

Items that have been identified as No Value are items that the owner has agreed are trash and as such, the owner is not seeking compensation or replacement of the item. These items will be stockpiled in the No Value area. The item will be placed on and covered with visquine. This is to prevent spread of contamination in the event of inclement weather and to protect the item before disposal.

Phase III

During Phase III activities, No Value items will be bagged and transported to the Screening Plant. The items will be stockpiled in a designated area at the Screening Plant for future disposal at the mine site. Transportation of the material to the Screening Plant will be by a licensed hazardous waste transporter. All shipments will be under uniform hazardous waste manifest in accordance with all Federal, State, and local regulations.

7.2 Value / Decon

Phase II

Items that have been identified a Value / Decon will be decontaminated and returned to the owner. These items will be stored in the Value / Decon storage building. A temporary wooden frame / visquine structure will be constructed to store these items. This will be done to protect the items and to prevent spread of contamination in the event of inclement weather. The structure will also allow easy access to the stored items.

Phase III

During Phase III activities, Value / Decon items will be decontaminated and returned to the owner. Cleaned items will be stored in a temporary storage building. Confirmation wipe sampling will be performed by CDM to verify items are free of contamination. Upon receipt of clean sample results and upon approval of the DOT representative, the items will be returned to the owner. All rinsate will be filtered and disposed of as discussed above. All cleaning materials and PPE will be bagged and taken to the Screening Plant for future disposal at the mine site.

7.3 Value / Disposal

Phase II

Items that have been identified as Value / Disposal will be disposed of and the items will be replaced or the owner will be compensated for the value of the items. These items have value but it is more feasible or economical to dispose of the item and replace with new or provide fair compensation to the owner than it is to decontaminate the item. These items will be stockpiled in the No Value storage building. A temporary wooden frame / visquine structure will be constructed to store these items. This will be done to protect the items and to prevent spread of contamination in the event of inclement weather. The structure will also allow easy access to the stored items.

Phase III

During Phase III activities, Value / Disposal items will be bagged and transported to the Screening Plant. The items will be stockpiled in a designated area at the Screening Plant for future disposal at the mine site. Transportation of the material to the Screening Plant will be by a licensed hazardous waste transporter. All shipments will be under uniform hazardous waste manifest in accordance with all Federal, State, and local regulations.

8.0 BUILDING DEMOLITION

The Warehouse has been designated for demolition. This will be accomplished using an excavator equipped with a thumb. The building will be broken up and loaded onto end dumps for transportation to the Screening Plant for future disposal at the mine. Continuous watering will take place during demolition to prevent dust emission. The

end dumps will be covered and the loads will be wetted to avoid dust emission as well. Any building foundations will be removed and disposed of unless otherwise directed by the DOT representative. Transportation of the material to the Screening Plant will be by a licensed hazardous waste transporter. All shipments will be under uniform hazardous waste manifest in accordance with all Federal, State, and local regulations.

9.0 CONTAMINATED SOIL REMOVAL

Contaminated soil exists or has the potential to exist in vermiculite stockpiles, garden areas, under equipment, and under contaminated buildings. The goal will be to remove all contaminated soil without causing excessive over excavation of soil. KES will coordinate with the DOT and CDM representatives regarding soil sampling and soil removal activities. Soil will be loaded onto end dumps and taken to the Screen Plant for future disposal at the mine. Continuous watering will take place during excavation to prevent dust emission. The end dumps will be covered and the loads will be wetted to avoid dust emission as well. Transportation of the material to the Screening Plant will be by a licensed hazardous waste transporter. All shipments will be under uniform hazardous waste manifest in accordance with all Federal, State, and local regulations.

Once the soil has been removed, CDM will perform soil sampling to verify the contamination is no longer present. If contamination is still present, KES will conduct further soil excavation to remove contamination upon receiving approval from the DOT representative. Resampling will then be performed by CDM.

10.0 IMPORT SOIL

After receiving clean sample results and upon approval of the DOT representative, KES will import soil to backfill contaminated soil excavations. Current anticipated excavations are in the garden or landscape areas. Topsoil will be imported for placement in these areas. If during the task order, other non-landscaped areas require excavation and soil replacement, then KES will coordinate with the DOT representative regarding type of import material required.

11.0 SITE RESTORATION

At the conclusion of on-site activities, KES will perform site restoration activities. This will include the dismantling and removal of all temporary storage buildings and fences, barricades, office trailer, and signs of construction. The site will be cleaned. The work areas will be graded to remove any equipment tracks. Reseeding of damaged lawn areas will be performed. In general, all signs of construction will be removed and any damaged areas will be repaired.

12.0 TASK ORDER CLOSEOUT

Before conducting demobilization activities, KES will inspect all areas of work. KES will then produce a Punch List of any items needing further work. The Punch List will include both fieldwork and project documentation. The Punch List will then be submitted to the DOT representative for review and comment. After DOT reviews and comments, a revised Punch List will be produced and distributed. KES will then complete any requirements or corrections. Punch List items will be reinspected by KES Project Manger and signed off. Upon completion of Punch List items, KES will request an inspection by DOT. If any additional work is required, it will immediately be performed.

13.0 DEMOBILIZATION

Upon completion of Punch List, KES will complete demobilization activities. Any remaining equipment or office facilities will be demobilized off-site. As the project winds down, KES personnel and equipment will be removed from the Libby project.

APPENDIX A

SITE MAPS

Poor Quality Source Document

The following document images have been scanned from the best available source copy.

To view the actual hard copy, contact the Superfund Records Center at (303) 312-6473.

Sample ID	ISO Concentrations (Air = fibers/cc)(Dust = fibers/cm2)					
	Actinolite			Chrysotile		
	Structures Detected			Structures Detected		
	Length 0.5 to 5 u	Length 5 to 10 u	Length > 10 u	Length 0.5 to 5 u	Length 5 to 10 u	Length > 10 u
1-01701	0.004278	0	0.001069	0	0	0
1-01704	0	0	0	2680	0	0
1-01705	0	0	0	0	0	0
1-01706	8040	2680	2680	0	0	0
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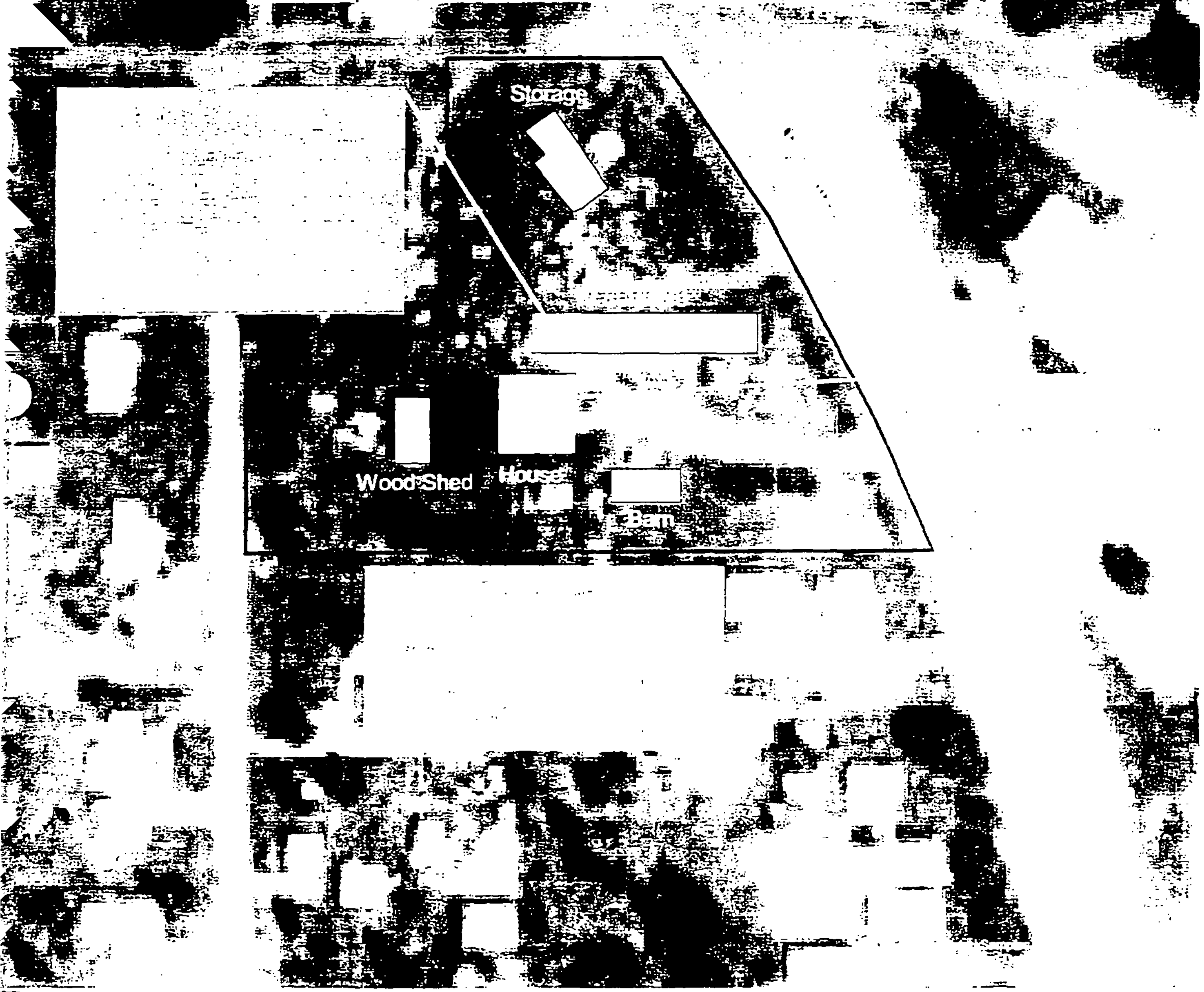
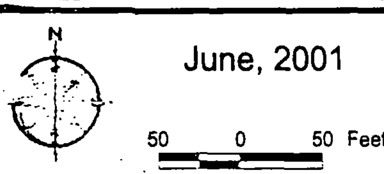




June, 2001

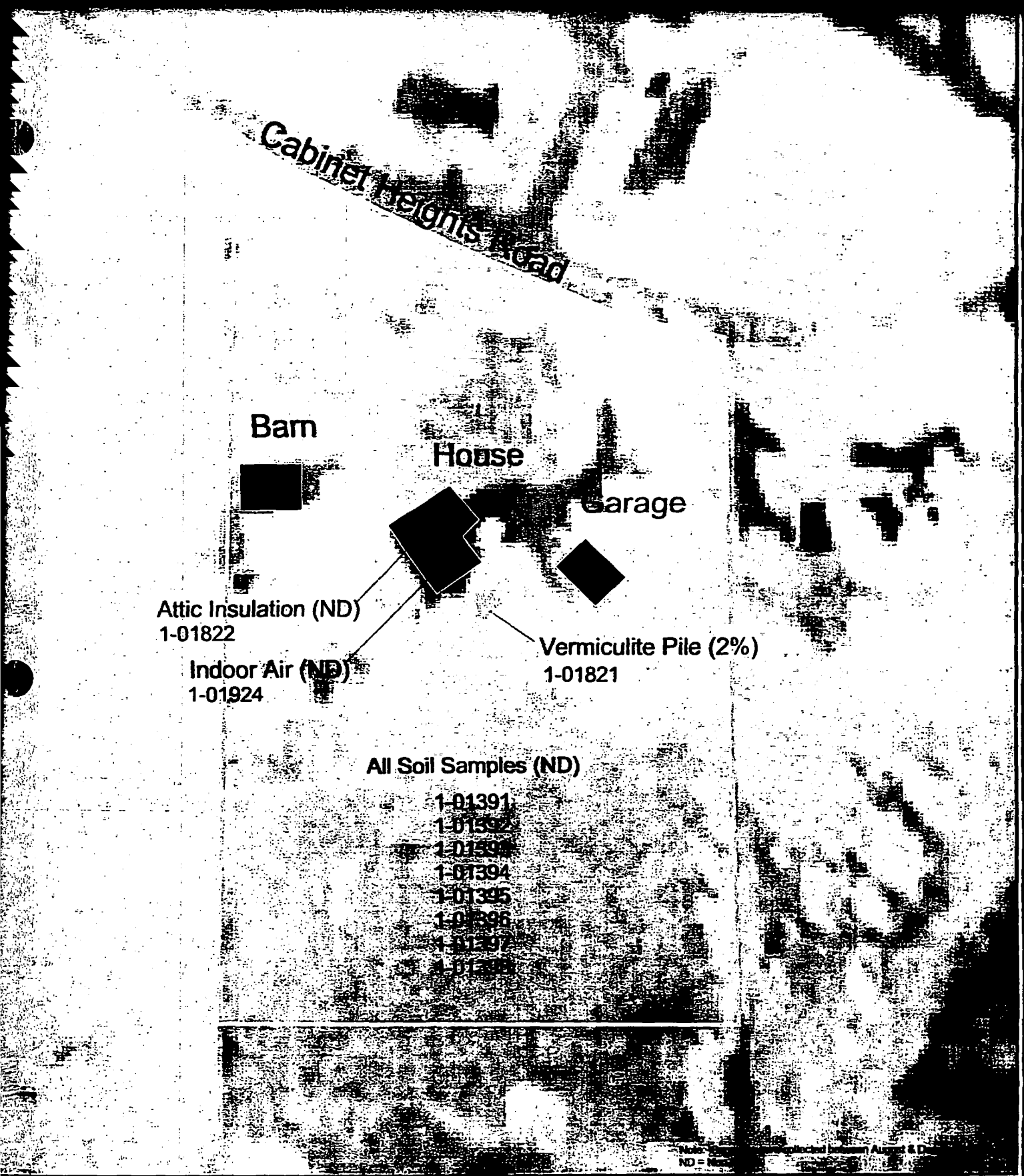
Sample Results (Asbestos)

Siefke Residence
3496 HIGHWAY 2
Libby, MT

Legend:
Approximate Property Boundary
Building

Federal Programs Corporation

Image Source: United States Geological Survey, 1995



June, 2001

SAMPLE RESULTS (ASBESTOS)

Brownlee Residence
819 Cabinet Heights Road
Libby, MT

50 0 50 Feet

Federal Programs Corporation

Legend:

- Approximate Property Boundary
- Building
- Vermiculite Pile

Image Source: United States Geological Survey, 1995.

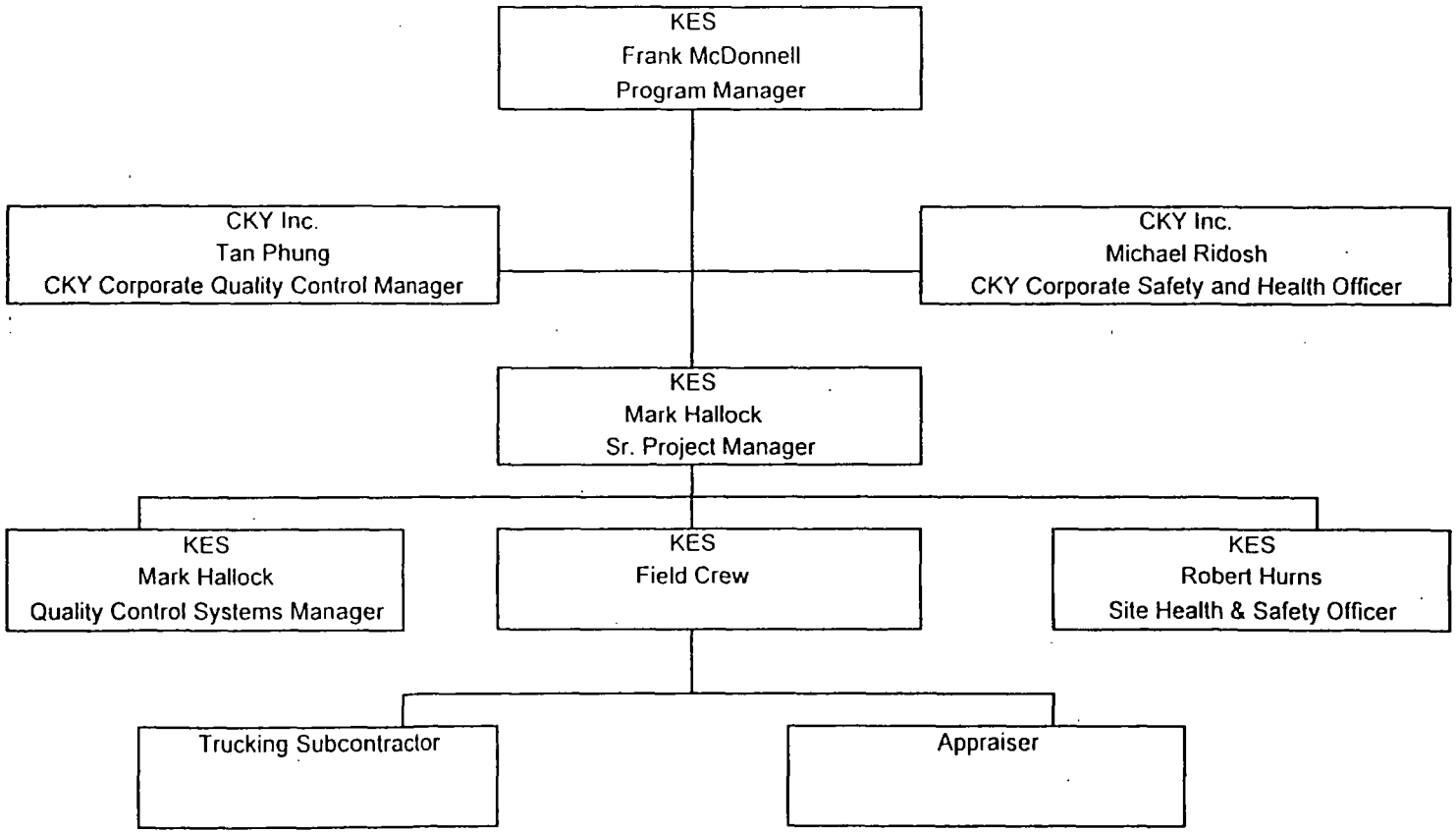
APPENDIX B

ORGANIZATION CHART

ORGANIZATIONAL CHART

Inventory / Cleanup
Siefke / Brownlee Properties
Libby, Montana

Contract No. DTRS57-01-D-30006
Task Order No. 003

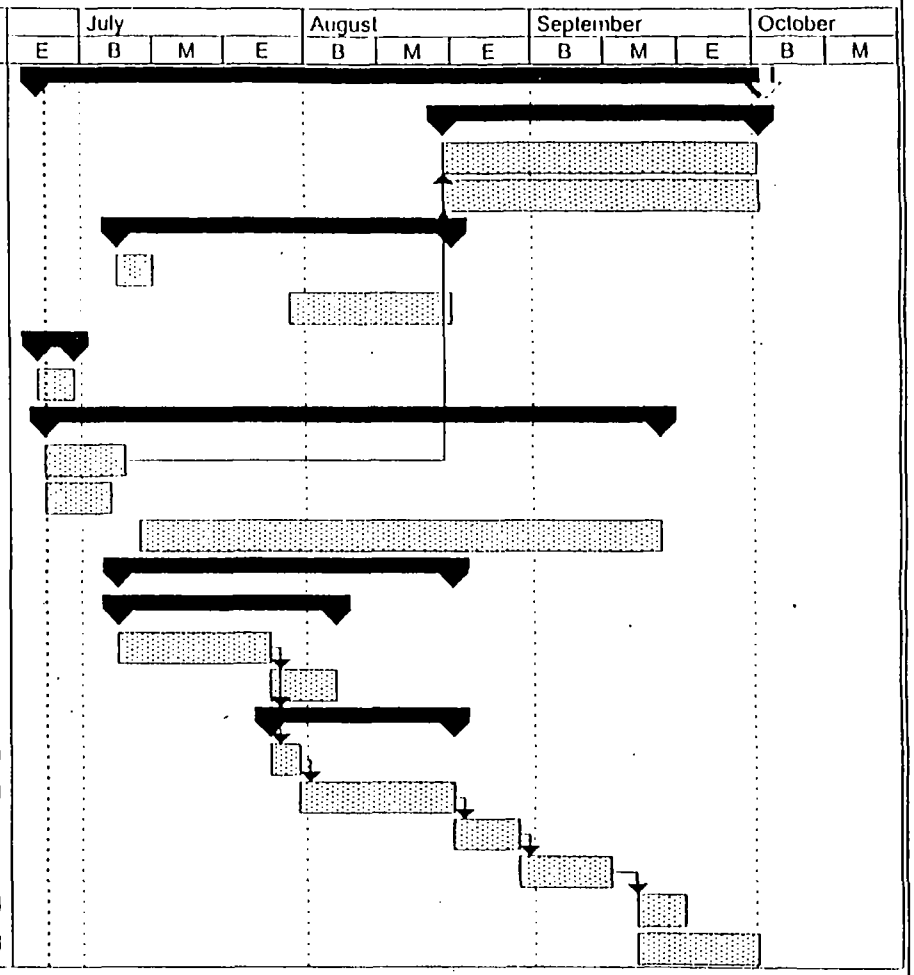


APPENDIX C

PROJECT SCHEDULE

Silke Property Inventory/Demo/Excav

ID	Task Name	Duration	Start	Finish
1	**Silke Property**	**82.4 days**	**Mon 6/25/01**	**Mon 10/1/01**
2	**Volpe**	**34.4 days**	**Mon 8/20/01**	**Mon 10/1/01**
3	Security	34.4 days	Mon 8/20/01	Mon 10/1/01
4	Relocate Residence	34.4 days	Mon 8/20/01	Mon 10/1/01
5	**PES**	**39 days**	**Fri 7/6/01**	**Mon 8/20/01**
6	Decon-able Items List	4 days	Fri 7/6/01	Tue 7/10/01
7	Air Monitoring	19 days	Mon 7/30/01	Mon 8/20/01
8	**CDM**	**5 days**	**Mon 6/25/01**	**Fri 6/29/01**
9	Site Characterization	5 days	Mon 6/25/01	Fri 6/29/01
10	**Kuo Envl.**	**71 days**	**Tue 6/26/01**	**Tue 9/18/01**
11	Work Plan and HASP Submitta	10 days	Tue 6/26/01	Fri 7/6/01
12	Inventory Specialist	8 days	Tue 6/26/01	Wed 7/4/01
13	Secure Storage	60 days	Mon 7/9/01	Tue 9/18/01
14	***Inventory***	**39 days**	**Fri 7/6/01**	**Mon 8/20/01**
15	**Walk Through**	**26 days**	**Fri 7/6/01**	**Sat 8/4/01**
16	List/Photos	18 days	Fri 7/6/01	Thu 7/26/01
17	Final Report	8 days	Fri 7/27/01	Sat 8/4/01
18	**Decontamination**	**21 days**	**Fri 7/27/01**	**Mon 8/20/01**
19	Mobilize	3 days	Fri 7/27/01	Mon 7/30/01
20	Decontaminate Items	18 days	Tue 7/31/01	Mon 8/20/01
21	Demolition	8 days	Tue 8/21/01	Wed 8/29/01
22	Contaminated Soil Removal	10 days	Thu 8/30/01	Tue 9/11/01
23	Import Clean Fill and Topsoil	5 days	Sat 9/15/01	Fri 9/21/01
24	Site Restoration/Demob	12 days	Sat 9/15/01	Mon 10/1/01



Tue 6/26/01

APPENDIX D

SAMPLE INVENTORY ID SHEET

KES
Kuo Environmental Services
302 W. 5th Street, Suite 310
San Pedro, CA 90731

Inventory ID Sheet

Insert
Photo

ID No.	QTY	Preliminary Category		
		No Value	Value / Decon	Value / Disposal

Description:

Comments: